§ 56.12012 Bare signal wires.

The potential on bare signal wires accessible to contact by persons shall not exceed 48 volts.

§ 56.12013 Splices and repairs of power cables.

Permanent splices and repairs made in power cables, including the ground conductor where provided, shall be:

(a) Mechanically strong with electrical conductivity as near as possible to that of the original;

(b) Insulated to a degree at least equal to that of the original, and sealed to exclude moisture; and

(c) Provided with damage protection as near as possible to that of the original, including good bonding to the outer jacket.

§ 56.12014 Handling energized power cables.

Power cables energized to potentials in excess of 150 volts, phase-to-ground, shall not be moved with equipment unless sleds or slings, insulated from such equipment, are used. When such energized cables are moved manually, insulated hooks, tongs, ropes, or slings shall be used unless suitable protection for persons is provided by other means. This does not prohibit pulling or dragging of cable by the equipment it powers when the cable is physically attached to the equipment by suitable mechanical devices, and the cable is insulated from the equipment in conformance with other standards in this part.

§ 56.12016 Work on electrically-powered equipment.

Electrically powered equipment shall be deenergized before mechanical work is done on such equipment. Power switches shall be locked out or other measures taken which shall prevent the equipment from being energized without the knowledge of the individuals working on it. Suitable warning notices shall be posted at the power switch and signed by the individuals who are to do the work. Such locks or preventive devices shall be removed only by the persons who installed them or by authorized personnel.

§ 56.12017 Work on power circuits.

Power circuits shall be deenergized before work is done on such circuits unless hot-line tools are used. Suitable warning signs shall be posted by the individuals who are to do the work. Switches shall be locked out or other measures taken which shall prevent the power circuits from being energized without the knowledge of the individuals working on them. Such locks, signs, or preventative devices shall be removed only by the person who installed them or by authorized personnel.

§ 56.12018 Identification of power switches.

Principal power switches shall be labeled to show which units they control, unless identification can be made readily by location.

§ 56.12019 Access to stationary electrical equipment or switchgear.

Where access is necessary, suitable clearance shall be provided at stationary electrical equipment or switchgear.

§ 56.12020 Protection of persons at switchgear.

Dry wooden platforms, insulating mats, or other electrically nonconductive material shall be kept in place at all switchboards and power-control switches where shock hazards exist. However, metal plates on which a person normally would stand and which are kept at the same potential as the grounded, metal, non-current-carrying parts of the power switches to be operated may be used.

§ 56.12021 Danger signs.

Suitable danger signs shall be posted at all major electrical installations.

§ 56.12022 Authorized persons at major electrical installations.

Areas containing major electrical installations shall be entered only by authorized persons.

§ 56.12023 Guarding electrical connections and resistor grids.

Electrical connections and resistor grids that are difficult or impractical

to insulate shall be guarded, unless protection is provided by location.

§ 56.12025 Grounding circuit enclosures.

All metal enclosing or encasing electrical circuits shall be grounded or provided with equivalent protection. This requirement does not apply to battery-operated equipment.

§ 56.12026 Grounding transformer and switchgear enclosures.

Metal fencing and metal buildings enclosing transformers and switchgear shall be grounded.

§ 56.12027 Grounding mobile equipment.

Frame grounding or equivalent protection shall be provided for mobile equipment powered through trailing cables.

§ 56.12028 Testing grounding systems.

Continuity and resistance of grounding systems shall be tested immediately after installation, repair, and modification; and annually thereafter. A record of the resistance measured during the most recent tests shall be made available on a request by the Secretary or his duly authorized representative.

§ 56.12030 Correction of dangerous conditions.

When a potentially dangerous condition is found it shall be corrected before equipment or wiring is energized.

§ 56.12032 Inspection and cover plates.

Inspection and cover plates on electrical equipment and junction boxes shall be kept in place at all times except during testing or repairs.

§ 56.12033 Hand-held electric tools.

Hand-held electric tools shall not be operated at high potential voltages.

§ 56.12034 Guarding around lights.

Portable extension lights, and other lights that by their location present a shock or burn hazard, shall be guarded.

§ 56.12035 Weatherproof lamp sockets.

Lamp sockets shall be of a weatherproof type where they are exposed to weather or wet conditions that may interfere with illumination or create a shock hazard.

§ 56.12036 Fuse removal or replacement.

Fuses shall not be removed or replaced by hand in an energized circuit, and they shall not otherwise be removed or replaced in an energized circuit unless equipment and techniques especially designed to prevent electrical shock are provided and used for such purpose.

§ 56.12037 Fuses in high-potential circuits.

Fuse tongs or hot line tools shall be used when fuses are removed or replaced in high-potential circuits.

§ 56.12038 Attachment of trailing cables.

Trailing cables shall be attached to machines in a suitable manner to protect the cable from damage and to prevent strain on the electrical connections.

§ 56.12039 Protection of surplus trailing cables.

Surplus trailing cables to shovels, cranes and similar equipment shall be—

(a) Stored in cable boats;

(b) Stored on reels mounted on the equipment; or

(c) Otherwise protected from mechanical damage.

§ 56.12040 Installation of operating controls.

Operating controls shall be installed so that they can be operated without danger of contact with energized conductors.

§ 56.12041 Design of switches and starting boxes.

Switches and starting boxes shall be of safe design and capacity.

§ 56.12042 Track bonding.

Both rails shall be bonded or welded at every joint and rails shall be crossbonded at least every 200 feet if the track serves as the return trolley circuit. When rails are moved, replaced, or broken bonds are discovered,